



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : **Confirmation No. 2488**

Kazunori KATAOKA et al. : Docket No. 2004-1545A

Serial No. 10/509,576 : Group Art Unit 1645

Filed September 29, 2004 :

BIOSENSOR CHIP SURFACE  
CARRYING POLYETHYLENE  
GLYCOLATED NANOPARTICLES :

THE COMMISSIONER IS AUTHORIZED  
TO CHARGE ANY DEFICIENCY IN THE  
FEE FOR THIS PAPER TO DEPOSIT  
ACCOUNT NO. 23-0975.

### SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Pursuant to the provisions of 37 CFR 1.56, 1.97 and 1.98, Applicants request consideration of the references listed on attached form PTO-1449 and any additional information identified below in paragraph 3. A legible copy of each reference listed on the Form PTO-1449 is enclosed, except a copy is not provided for:

- ☒ each U.S. Patent and U.S. Patent application publication;
- ☐ each reference previously cited in the international application PCT/\_\_\_\_\_; and/or
- ☐ each reference previously cited in prior parent application Serial No.

1a. ☒ This Information Disclosure Statement is submitted:

within three months of the filing date (or of entry into the National Stage) of the above-entitled application, **or**

before the mailing of a first Office Action on the merits or the mailing of a first Office Action after the filing of an RCE,

**and thus no certification and/or fee is required.**

1b. ☐ This Information Disclosure Statement is submitted

after the events of above paragraph 1a and prior to the mailing date of a final Office Action or a Notice of Allowance or an action which otherwise closes prosecution in the application, and thus:

(1) ☐ the certification of paragraph 2 below is provided, **or**

(2) ☐ the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.

1c. ☐ This Information Disclosure Statement is submitted:

after the mailing date of a final Office Action or Notice of Allowance or action which otherwise closes prosecution in the application, and prior to payment of the issue fee, and thus:

**the certification of paragraph 2 below is provided, and**

**the fee of \$180.00 specified in 37 CFR 1.17(p) is enclosed.**

2. It is hereby certified

a. ☐ that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Statement, or

b. ☐ that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated in §1.56(c) more than three months prior to the filing of the Statement.

3. ☐ Consideration of the following list of additional information (including any copending or abandoned U.S. application, prior uses and/or sales, etc.) is requested.
4. For each non-English language reference listed on the attached form PTO-1449, reference is made to:
- a. ☐ a full or partial English language translation submitted herewith,
  - b. ☐ a foreign patent office search report (in the English language) submitted herewith,
  - c. ☒ the concise explanation contained in the specification of the present application at pages 1-4,
  - d. ☒ the concise explanation set forth in the attached English language abstract,
  - e. ☐ the concise explanation set forth below or on a separate sheet attached to the reference:
5. ☐ A foreign patent office search report citing one or more of the references is enclosed.
6. ☐ Statement Under 37 CFR 1.704(d)

Each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign Patent Office in a counterpart application, and this communication was not received by any individual designated in §1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.

7. ☒ Comments:

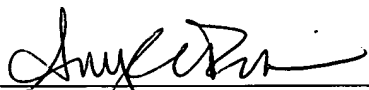
We enclose herewith copies of the references cited in the International Search Report. These references were previously cited (references AJ-AP) on the PTO-1449 form attached to the Information Disclosure Statement filed September 29, 2004.

WO '301, cited on the attached PTO-1449 form, corresponds to US 2003/0171506, also cited herein. JP '903, cited herein, corresponds to US 2004/0038506, cited herein. WO '200, cited on the PTO-1449 form attached to the Information Disclosure Statement filed September 29, 2004, also corresponds to US 2004/0038506.

JP '097, cited on the PTO-1449 form attached to the Information Disclosure Statement filed September 29, 2004, is related to US '275, cited herein. WO '690, cited on the PTO-1449 form attached to the Information Disclosure Statement filed September 29, 2004, corresponds to the English translation of originally filed PCT application PCT/JP02/08619, cited herein.

Respectfully submitted,

Kazunori KATAOKA et al.

By:   
Amy E. Pulliam  
Registration No. 55,965  
Agent for Applicants

MRD/AEP/pth  
Washington, D.C. 20006-1021  
Telephone (202) 721-8200  
Facsimile (202) 721-8250  
March 30, 2005

## INFORMATION DISCLOSURE STATEMENT

FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICELIST OF REFERENCES CITED BY APPLICANT  
(Use several sheets if necessary)

Date Submitted to PTO: March 30, 2005

ATTY DOCKET NO.  
2004-1545ASERIAL NO.  
10/509,576APPLICANT  
Kazunori KATAOKA et al.FILING DATE  
September 29, 2004GROUP  
1645

## U.S. PATENT DOCUMENTS

| *EXAMINER<br>INITIAL |    | DOCUMENT<br>NUMBER | DATE    | NAME             | CLASS | SUBCLASS | FILING DATE IF<br>APPROPRIATE |
|----------------------|----|--------------------|---------|------------------|-------|----------|-------------------------------|
|                      | AA | 5,242,828          | 9/1993  | Bergström et al. |       |          |                               |
|                      | AB | 2003/0171506       | 9/2003  | Kataoka et al.   |       |          |                               |
|                      | AC | 2004/0038506       | 2/2004  | Kataoka et al.   |       |          |                               |
|                      | AD | 6,833,275          | 12/2004 | Nichtl           |       |          |                               |
|                      | AE | 2002/0052009       | 5/2002  | Hornauer et al.  |       |          |                               |

## FOREIGN PATENT DOCUMENTS

|  |    | DOCUMENT<br>NUMBER | DATE    | COUNTRY | CLASS | SUBCLASS | TRANSLATION<br>YES NO |
|--|----|--------------------|---------|---------|-------|----------|-----------------------|
|  | AF | 01/86301           | 11/2001 | WO      |       |          |                       |
|  | AG | 2002-267669        | 9/2002  | Japan   |       |          |                       |
|  | AH | 2000-055920        | 2/2000  | Japan   |       |          |                       |
|  | AI | 2001-200050        | 7/2001  | Japan   |       |          |                       |
|  | AJ | 2002-80903         | 3/2002  | Japan   |       |          |                       |
|  | AK |                    |         |         |       |          |                       |
|  | AL |                    |         |         |       |          |                       |

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

|  |    |  |
|--|----|--|
|  | AM | A. Szabo et al., "Surface plasmon resonance and its use in biomolecular interaction analysis (BIA)", Current Opinion in Structural Biology, 5, pages 699-705, 1995.  |
|  | AN | C. Roberts et al., "Using Mixed Self-Assembled Monolayers Presenting RGD and (EG) <sub>3</sub> OH Groups To Characterize Long-Term Attachment of Bovine Capillary Endothelial Cells to Surfaces", J. Am. Chem. Soc., 120, pages 6548-6555, 1998. |
|  | AO | L.A. Lyon et al., "Colloidal Au-Enhanced Surface Plasmon Resonance Immunosensing", Anal. Chem., 70, pages 5177-5183, 1998.   |
|  | AP | L. He et al., "Colloidal Au-Enhanced Surface Plasmon Resonance for Ultrasensitive Detection of DNA Hybridization", J. Am. Chem. Soc., 122, pages 9071-9077, 2000.  |

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of form with next communication to applicant.

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FORM PTO 1449 (modified)

U.S. DEPARTMENT OF COMMERCE  
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(Use several sheets if necessary)

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PRIORITY DOCKET NO.

0004-1545A

SERIAL NO.

10/509,576

APPLICANT

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FILING DATE

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GROUP

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|----------------------|----|--------------------|------|------|-------|----------|-------------------------------|
|                      | AA |                    |      |      |       |          |                               |
|                      | AB |                    |      |      |       |          |                               |
|                      | AC |                    |      |      |       |          |                               |

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|  | AD |                    |      |         |       |          |                       |
|  | AE |                    |      |         |       |          |                       |
|  | AF |                    |      |         |       |          |                       |
|  | AG |                    |      |         |       |          |                       |

## OTHER DOCUMENT(S) (Including Author, Title, Date, Pertinent Pages, Etc.)

|  |    |  |
|--|----|--|
|  | AH | English translation of originally filed PCT application (PCT/JP02/08619).  |
|  | AI | E. Hutter et al., "Surface Plasmon Resonance Studies of Gold and Silver Nanoparticles Linked to Gold and Silver Substrates by 2-Aminoethanethiol and 1,6-Hexanedithiol", J. Phys. Chem. B, 105, pages 11159-11168, 2001. |
|  | AJ | N. Nath et al., "A Colorimetric Gold Nanoparticle Sensor to Interrogate Biomolecular Interactions in Real Time on a Surface", Anal. Chem., 74, pages 504-509, 2002.  |
|  | AK | W. P. Wuelfing et al., "Nanometer Gold Clusters Protected by Surface-Bound Monolayers of Thiolated Poly(ethylene glycol) Polymer Electrolyte", J. Am. Chem. Soc., 120, pages 12696-12697, 1998.                          |
|  | AL |  |
|  | AM |  |

EXAMINER

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